



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,420	03/23/2004	Dong-yun Shin	Q79712	2277
23373 7590 11/26/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
RIYAMI, ABDULLA A				
ART UNIT		PAPER NUMBER		
2416				
MAIL DATE		DELIVERY MODE		
11/26/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/806,420

Applicant(s)

SHIN ET AL.

Examiner

ABDULLAH RIYAMI

Art Unit

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/17/2008 has been entered.

Claim Rejections - 35 USC § 101

2. Claims 10-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 10 recites, a method for a wireless local area network system, comprising **sending prefix information** of a gateway according to a request of a mobile host wherein the gateway performs functions of a home agent in a mobile wireless communication environment; and

allocating an Internet Protocol (IP) address to the mobile host by using the prefix information;

associating the mobile host with an access point having a management range within which the mobile host is located;

producing a Binding Update list for the associated mobile host; and sending the Binding Update list to the gateway.

Claim 10 is rejected under 35 U.S.C. 101 because they do not fall within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a manufacture or machine), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (*Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"*).

The instant claim neither transform underlying subject matter nor recite structure associated with another statutory category, and therefore do not define a statutory process.

The claim elements **"sending prefix information"** and **"allocating an Internet Protocol (IP) address"** and **"associating the mobile host"** and **"producing a Binding Update list"**.

(1) do not tie to another statutory class (such as a particular apparatus) by identifying the apparatus (e.g. a request manager or a router manager) that accomplishes the method steps;

(2) are not structure required by the claim, or positively recited in the body of the claim in association with a step significant to the inventive concept.

A claim reciting an adequate structural tie must positively recite the structure of another statutory category in association with a step significant to the inventive concept. The following are examples of structural recitations that do not constitute adequate

structural ties per se: (1) Structure recited in a preamble alone, (2) structure in a phrase expressing intended use or purpose, and (3) structure in a step insignificant to the inventive concept, such as nominal pre or post solution activity.

Claims 11-16 are also rejected for the same reason as set forth above in claim 10.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Regarding claim 1, line 9 and claim 10, line 13 the limitation "associated with a different gateway" has not been disclosed throughout the specification. The specification discloses reference to only one gateway as described as an example, in page 4, paragraph 13, lines 2-5 (the present invention comprises a gateway performing functions of a home agent) of the specification and figure 6 (gateway/home agent).

5. **Claims 2-8 and 11-16** are also rejected since they depend from independent claims 1 and 10.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkitaraman et al. (US 2003/0161287 B2) in view of Okajima et al. (US 2004/0114554 A1).

As per claim 1, Venkitaraman et al. discloses a wireless local area network system (see figure 1, network 100), comprising: a gateway (see figure 1, block 124, home agent) performing functions of a home agent in a mobile wireless communication environment (see paragraph 43, lines 10-15, home agent receives binding updates and stores information and prefixes) and sending prefix information (see paragraph 43, lines 10-15, updating and sending care-of-address and prefixes);

and one or more access points (see figure 1, router 112, paragraph 19, line 3, mobile router), each access point allocating an Internet Protocol (IP) address to a mobile host in a management range thereof by using the prefix information of the gateway (see paragraph 43, lines 1-15, and paragraph 45, lines 7-15 the mobile router advertises prefix info of the subnet to the mobile node),

wherein each access point produces and sends a Binding Update list (see paragraph 43, line 13, binding updates) corresponding to the mobile host to the gateway (see paragraph 43, lines 10-15, home agent, mobile node and mobile router), wherein when said mobile host moves into a range of a different access point (see figure 9, mobile node moves from router 112 to a different router 118), said mobile host retains the prefix information of the gateway (see paragraphs 43, lines 15-17 CN retains entry associated with mobile node and paragraph 45, lines 10-15, same mobile node address but different care of address).

Venkitaraman does not expressly disclose a different access point associated with a different gateway.

Okajima discloses a different access point (figure 12, Access router) associated with a different gateway (see figure 12, the mobile host moves in to a foreign link having a mobile agent, which is interpreted as a different gateway, and paragraph 5, lines 1-12 also discloses that when the mobile host moves in to a foreign link, the home address is still used, but assigned a care of address).

Venkitaraman and Okajima are analogous art since they are from the same field of endeavor of having using prefixes and sending binding updates to agents.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Okajima's teaching of a different access point (figure 12, Access router) associated with a different gateway (see figure 12, the mobile host moves in to a foreign link having a mobility agent (paragraph 19, line 5), which is interpreted as a different gateway, and paragraph 5, lines 1-12 also discloses that when the mobile host moves in to a foreign link, the home address is still used, but assigned a care of address) in Venkitaraman's wireless local area network system (see figure 1, network 100).

The motivation to combine would have been to have a system and method providing mobility agents, mobile hosts, home agents, and packet communication systems the capabilities to reduce traffic volume of binding update packets and preventing loss of packet.

As per claim 2, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein when a packet is sent from a correspondent node (see figure 1, CN 126) to the mobile host (see figure 1, mobile node 116) the gateway encapsulates a header portion of the packet with a source address and a destination

address (see paragraph 36, lines 1-12, encapsulates the packet), and an access point corresponding to the destination address decapsulates the encapsulated packet sent from the gateway (see paragraph 36, lines 1-12, decapsulates the packet).

As per claim 3, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein when a packet is sent from the mobile host to a correspondent node (see paragraph 36, figures 1-10 shows all the scenarios of packet communications), the access point defining the management range of the mobile host encapsulates a header portion of the packet with a source address and a destination address (see paragraph 36, lines 1-12, encapsulates the packet) and sends the encapsulated packet (see paragraph 36, lines 1-12, encapsulates the packet).

As per claim 4, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein the gateway (see figure 1) manages one or more access routers (see figure 1, routers 120 118, 112, base radio 104), each access router manages one or more access points (see paragraph 36, (see figure 1, routers 120 118, 112, base radio 104), and each access point manages one or more mobile hosts (see paragraph 19, line 4, one or more network nodes).

As per claim 5, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein the IP addresses for the mobile hosts have the same prefix information (see paragraphs 43, lines 15-17 CN retains entry associated with mobile node and paragraph 45, lines 10-15, same mobile node address but different care of address).

As per claim 6, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein the IP addresses for an access point serves as a Care-of Address (CoA) for each mobile host within the management range of the access point (see paragraphs 43, lines 15-17 CN retains entry associated with mobile node and paragraph 45, lines 10-15, same mobile node address but different care of address).

As per claim 7, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein each access point includes: an IP address generation unit (see (see paragraph 43, lines 10-15, updating and sending care-of-address and prefixes, paragraph 25, 36 and figure 1) for generating the IP address for the mobile host in the management range of the access point by combining the prefix information and a MAC address of the mobile host (see (see paragraph 43, lines 10-15, updating and sending care-of-address and prefixes); a binding cache for storing information (see paragraph 43, line 13, binding update) on the generated IP address and corresponding mobile host (see paragraph 43, figure 1-10); and a Binding Update (BU) transmission unit (see paragraph 43, line 13 binding update) for sending to the gateway the produced Binding Update list for the mobile host (see paragraph 43, binding update).

As per claim 8, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein each access point further includes a decapsulation unit (see paragraph 36, lines 1-12, decapsulates the packet) for decapsulating a source address and a destination address that are encapsulated with a header portion of a packet sent from a correspondent node unit (see paragraph 36, lines 1-12, decapsulates the packet, figure 1-10, discloses all packet communication scenarios).

As per claim 9, Venkitaraman et al. discloses a wireless local area network system (see figure 1), wherein each access point further includes an encapsulation unit (see paragraph 36, lines 1-12, encapsulates the packet) for encapsulating a header portion of a packet to be sent to a correspondent node (see figure 1, CN 126) with a source address and a destination address (see paragraph 36, lines 1-12, encapsulates the packet).

As per claim 10, Venkitaraman et al. discloses an operation method for a wireless local area network system (see figure 1, block 124, home agent), comprising: sending prefix information of a gateway according to a request of a mobile host (see paragraph 43, lines 10-15, updating and sending care-of-address and prefixes) wherein the gateway performs functions of a home agent in a mobile wireless communication environment (see paragraph 43, lines 10-15, home agent receives binding updates and stores information and prefixes);

and allocating an Internet Protocol (IP) address to the mobile host by using the prefix information (see paragraph 43, lines 1-15, and paragraph 45, lines 7-15 the mobile router advertises prefix info of the subnet to the mobile node); associating the mobile host with an access point having a management range within which the mobile host is located (see paragraph 43, lines 10-15, home agent receives binding updates and stores information and prefixes, paragraph 45, lines 7-15 the mobile router advertises prefix info of the subnet to the mobile node);

producing a Binding Update list for the associated mobile host (see paragraph 43, line 13, binding updates); and sending the Binding Update list to the gateway (see

paragraph 43, line 13, binding updates), wherein when said mobile host moves into a range of a different access point (see figure 9, mobile node moves from router 112 to a different router 118), said mobile host retains the prefix information of the gateway (see paragraphs 43, lines 15-17 CN retains entry associated with mobile node and paragraph 45, lines 10-15, same mobile node address but different care of address).

Venkitaraman does not expressly disclose a different access point associated with a different gateway.

Okajima discloses a different access point (figure 12, Access router) associated with a different gateway (see figure 12, the mobile host moves in to a foreign link having a mobile agent, which is interpreted as a different gateway, and paragraph 5, lines 1-12 also discloses that when the mobile host moves in to a foreign link, the home address is still used, but assigned a care of address).

Venkitaraman and Okajima are analogous art since they are from the same field of endeavor of having using prefixes and sending binding updates to agents.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Okajima's teaching of a different access point (figure 12, Access router) associated with a different gateway (see figure 12, the mobile host moves in to a foreign link having a mobility agent (paragraph 19, line 5), which is interpreted as a different gateway, and paragraph 5, lines 1-12 also discloses that when the mobile host moves in to a foreign link, the home address is still used, but assigned a care of address) in Venkitaraman's wireless local area network system (see figure 1, network 100).

The motivation to combine would have been to have a system and method providing mobility agents, mobile hosts, home agents, and packet communication systems the capabilities to reduce traffic volume of binding update packets and preventing loss of packet.

As per claim 11, Venkitaraman et al. discloses an operation method for a wireless local area network system (see figure 1), comprising when a packet is sent from a correspondent node (see figure 1, CN 126) to the mobile host (see figure 1, mobile node 116), encapsulating a header portion of the packet at the gateway with a source address and a destination address (see paragraph 36, lines 1-12, encapsulates the packet) and sending the encapsulated packet address (see paragraph 36, lines 1-12, encapsulates the packet); and decapsulating (see paragraph 36, lines 1-12, decapsulates the packet) a header portion from the encapsulated packet sent from the gateway (see paragraph 36, lines 1-12, decapsulates the packet).

As per claim 12, Venkitaraman et al. discloses an operation method for a wireless local area network system (see figure 1), comprising when a packet (see paragraph 36, figures 1-10) is sent from the mobile host to a correspondent node (see paragraph 36, figures 1-10 shows all the scenarios of packet communications), encapsulating a header portion of the packet at the access point with a source address and a destination address (see paragraph 36, lines 1-12, encapsulates the packet) and sending the encapsulated packet (see paragraph 36, lines 1-12, encapsulates the packet).

As per claim 13, Venkitaraman et al. discloses an operation method for a wireless local area network system (see figure 1), wherein the gateway (see figure 1) manages one or more access routers (see figure 1, routers 120 118, 112, base radio 104), each access router manages one or more access points (see figure 1, routers 120 118, 112, base radio 104), and each access point manages one or more mobile hosts (see paragraph 19, line 4, one or more network nodes).

As per claim 14, Venkitaraman et al. discloses an operation method for a wireless local area network system, wherein the IP addresses for the mobile hosts have the same prefix information (see paragraphs 43, lines 15-17 CN retains entry associated with mobile node and paragraph 45, lines 10-15, same mobile node address but different care of address).

As per claim 15, Venkitaraman et al. discloses an operation method for a wireless local area network system (see figure 1), wherein the IP addresses for an access point serves as a Care-of Address (CoA) for each mobile host (see figure 1) within the management range of the access point see paragraphs 43, lines 15-17 CN retains entry associated with mobile node and paragraph 45, lines 10-15, same mobile node address but different care of address).

As per claim 16, Venkitaraman et al. discloses an operation method for a wireless local area network system (see paragraph 43), wherein the mobile host association operation (see paragraph 43) includes: generating the IP address for the mobile host (see paragraph 43) in the management range of the access point by combining the prefix information and a MAC address of the mobile host (see paragraph

43); storing information on the generated IP address and the corresponding mobile host (see paragraph 43 figures 1-10); producing a Binding Update list (see paragraph 43) of the associated mobile host; and sending to the gateway the produced Binding Update list for the mobile host (see paragraph 43, line 13, paragraph 45, lines 1-13, binding updates communicated between mobile host router agent and corresponding node).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABDULLAH RIYAMI whose telephone number is (571)270-3119. The examiner can normally be reached on Monday through Thursday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2416

/Abdullah Riyami/
Examiner, Art Unit 2416